

Guardian birds.

[Coryell, J. P.]

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GUARDIAN BIRDS.

BY

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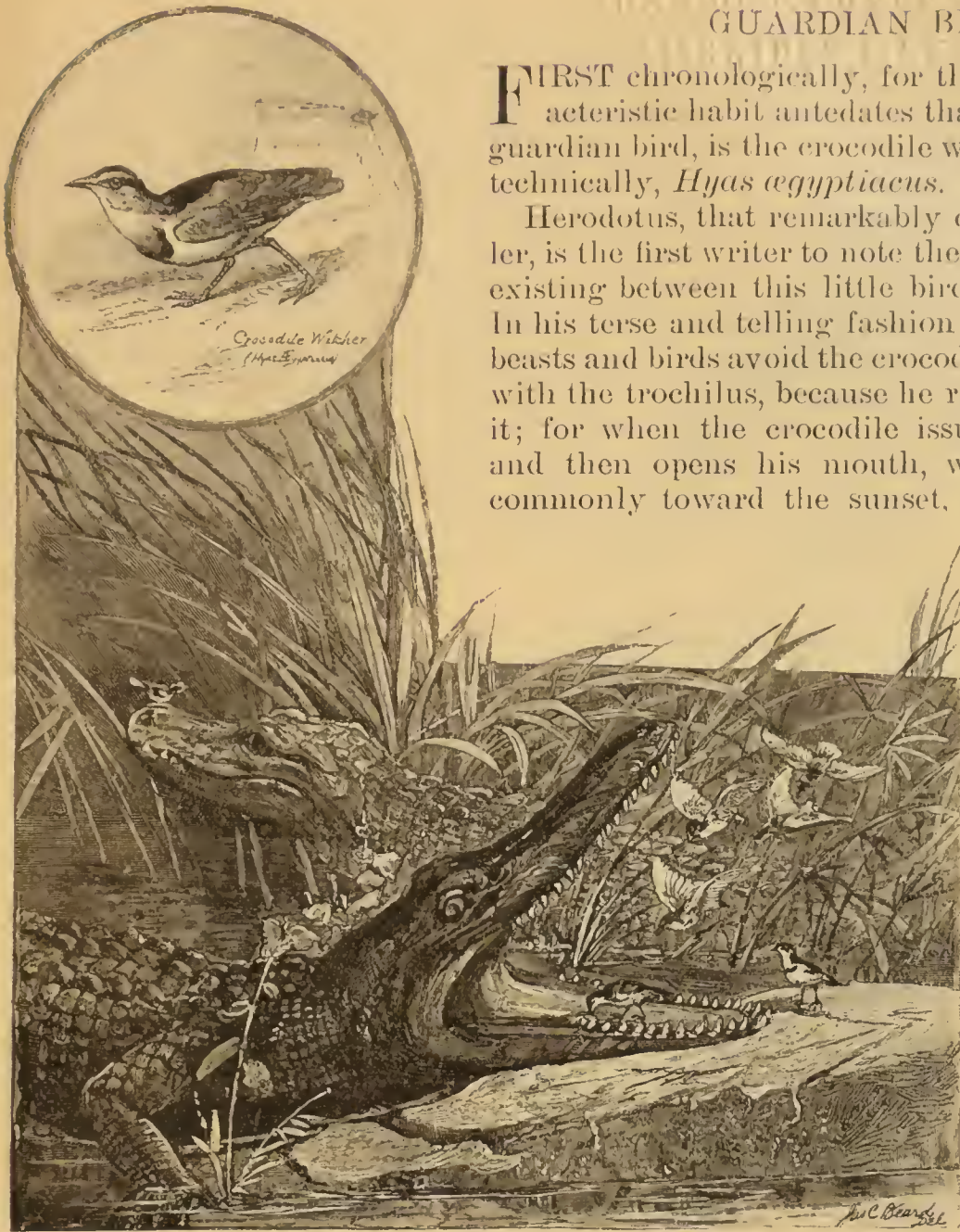
GUARDIAN BIRDS.

FIRST chronologically, for the record of its characteristic habit antedates that given of any other guardian bird, is the crocodile watcher, trochilus, or, technically, *Hyas aegyptiacus*.

Herodotus, that remarkably observing old traveler, is the first writer to note the curious relationship existing between this little bird and the crocodile. In his terse and telling fashion he says: "All other beasts and birds avoid the crocodile, but he is at peace with the trochilus, because he receives benefits from it; for when the crocodile issues from the water, and then opens his mouth, which he does most commonly toward the sunset, the trochilus enters

his mouth and swallows the leeches which cling to his teeth. The huge beast is so pleased that he never injures the little bird."

Subsequent writers, with the sufficient wisdom that comes of much closet study, denied the story of the old Greek on the ground of improbability. On the other hand, the natives find the account too bald, and improve upon it by adding that the zic-zac, as they call the bird, in



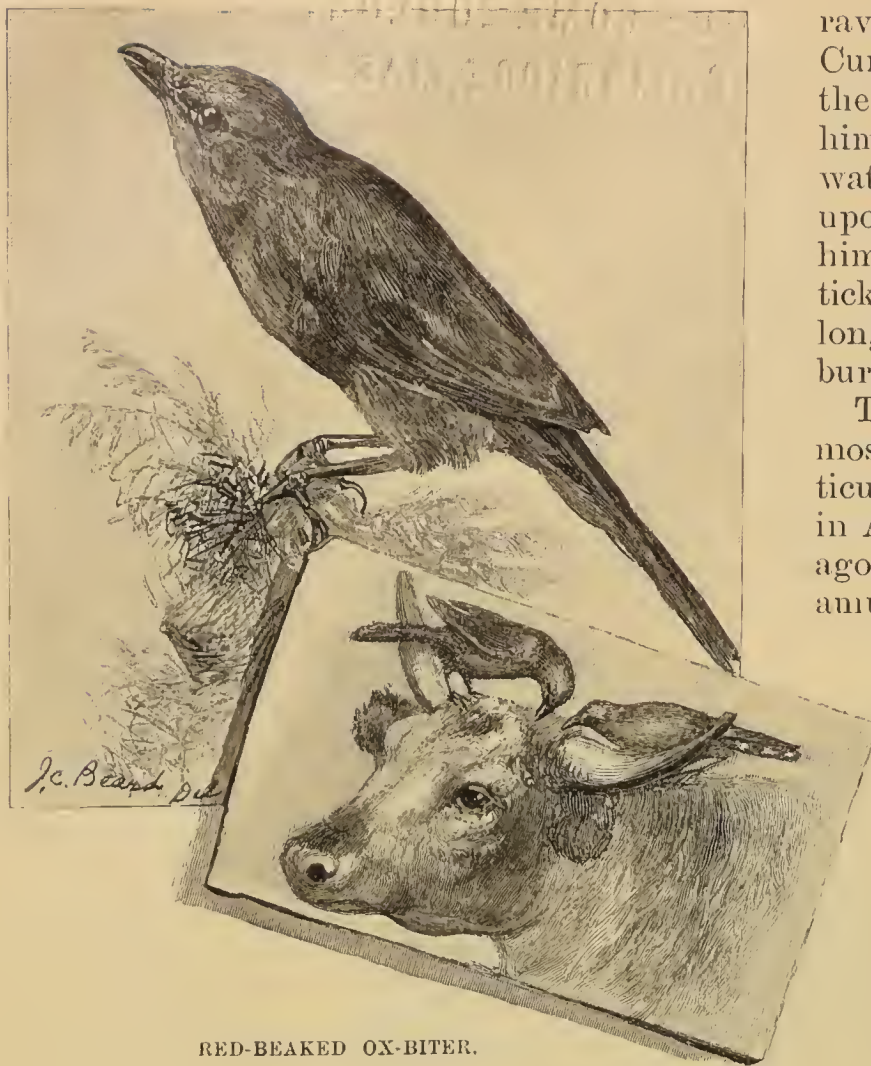
GUARDIANS OF THE CROCODILE.

likeness to its cry, frequently becomes so intent upon his business of picking the crocodile's teeth that he forgets the lapse of time, and continues his operations so long—in this respect strikingly like our human trochilus, the dentist—that the monster in sheer weariness must close his mouth. This ungrateful action the trochilus indignantly resents, and at once, with beak and spurs, proceeds to scarify the crocodile's interior, with the result of causing the tired jaws to open once more.

Modern writers who have been to Egypt confirm the substance of the story of Herodotus, but are skeptical as to the native addition. They affirm, indeed, that the trochilus is the crocodile's friend in its despite rather than with its consent, and that the occasions when the bird finds itself caught between its ugly protégé's jaws, though infrequent, are final. This is very likely to be true, for the crocodile is certainly rapacious and blood-thirsty to the extreme of sullen brutality.

If it be the case, it is fortunate for the trochilus that it is gifted with unusual agility. It belongs to the family of long-legged birds, which includes a great many species, ranging from the spry little snipe to the languid herons and cranes. Its beak is short, but its legs are long and muscular, as they need be to enable it to move with the rapidity for which it is remarkable.

When not on duty it remains rather quiet, and seems to wait for the appearance of the ungrateful object of its solicitude with great patience; but when the monster is at



RED-BEAKED OX-BITER.

last moved to bask upon a sand bank, the trochilus is full of activity. It runs busily hither and thither, plucking off and swallowing the leeches that always are to be found adhering to the soft parts of the crocodile's body.

The lazy saurian, in the mean time, like those happy mortals who fall asleep under the barber's ministrations, closes his mean little eyes and forgets his cares. Busy as it may be in helping itself to the toothsome leeches, the trochilus has set a sharp eye out for intruders, and above all for man. Should any such approach too near, the sharp cry of the faithful guardian rouses the slumberer, which at once glides away into the water and safety.

Turning from this pitiful case of unrequited affection, it will be necessary to take but a few steps into the African jungle to come upon an almost equally ungainly and savage brute guarded with as much care and jealousy by an even more attractive bird than the trochilus. These are the rhinoceros and his faithful attendants the red-beaked ox-biters (*Buphaga erythrorhynca*), more popularly known as rhinoceros-birds.

These birds, which belong to the great

raven family, are, to use Gordon Cumming's words, "the best friends the rhinoceros has." They cling to him through good and evil report; watch over him by day, and perch upon him by night; never leaving him, in fact, as long as he has a tick to his hide—in other words, as long as he has a hide for a tick to burrow in.

Ticks, which infest the forests of most parts of the earth, and are particularly plentiful and enterprising in Africa, cause the most exquisite agony to the rhinoceros, hippopotamus, and elephant, notwithstanding the seeming protection of their very thick skin. It is quite probable, indeed, that the seeming protection is only a source of greater suffering, because of the greater difficulty of dislodging the tormentor.

To the bird, however, these ticks are as so many nuggets of gold to the prospecting man. Its beak is so constructed as to render

the extraction of a deeply imbedded tick only a pleasantly difficult task. What an art this is that man alone can know who has attempted to dislodge a tick from his own skin, and only succeeded in leaving there a safely buried and poisonous head. The ungainly recipient of the bird's attentions is duly grateful, and never, even when suffering great pain from the probing beak, offers any remonstrance, but rather shows, by the liberties it permits, the implicit confidence it reposes in its attendants.

In those hot and marshy parts of the world a slight wound soon becomes a serious sore, and in consequence of the attraction it is to flies and other unpleasant little creatures, would soon become the cause of the afflicted animal's death, did not the feathered guardians zealously watch the affected spot, and treat it as skillfully and effectually as any physician could. In Abyssinia the natives dislike the bird, because they ignorantly fancy that the probing of the wounds on their cattle prevents healing.

It may be understood from what has been said that the rhinoceros-bird is no careless guardian practicing benevolence

from purely selfish motives. He is not content to extract the parasites from the easy and conspicuous spots, but hops with great care all over his huge charge, now thrusting his inquisitive beak into this ear, now hopping over the head and inspecting the other, now examining the corners of the mouth, and next wisely seeing that the region of the eyes is safe.

The guardian duty is not usurped by one bird, but, as if impressed with the importance of the task, as many as a half-dozen will devote themselves to one rhinoceros. Nor do they limit their duties to parasite inspection. Like the trochilus, they watch over his slumbers, and warn him by vociferous crying of the approach

"Chukuroo," he says, "perfectly understands their warning, and springing to his feet, he generally first looks about him in every direction, after which he invariably makes off. I have often hunted a rhinoceros on horseback which led me a chase of many miles, and required a number of shots before he fell, during which chase several of these birds remained by the rhinoceros to the last. They reminded me of mariners on the deck of some bark sailing on the ocean, for they perched along his back and sides, and as each of my bullets told on the shoulder of the rhinoceros they ascended about six feet into the air, uttering their harsh cry of alarm, and then resumed their position. It some-



RHINOCEROS-BIRDS AND WHITE RHINOCEROS.

of an enemy, and when noise fails to arouse him they fly at his face and flap it with their wings. Gordon Cumming, who writes pleasantly, but not scientifically, says that more than once his careful stalking was rendered naught by the watchful presence of these birds.

times happened that the lower branches of trees under which the rhinoceros passed swept them from their living deck, but they always recovered their former station. I have often shot these animals at midnight when drinking at the fountains, and the birds, imagining they were asleep,

remained with them till morning; and on my approaching, before taking flight, they exerted themselves to their utmost to awaken Chukuroo from his deep sleep."

The good looks of this little guardian contrast oddly with the exaggerated uncouthness of its protégé. As its name implies, it has a red beak. Its back and feet are of a grayish-brown, the under parts of the body are pale yellow, and the eyes and eyelids are of a golden color. It is about nine inches long, and spreads its wings thirteen inches.

Although called the rhinoceros-bird, it does not confine its beneficent attentions to that animal, though in the care of no other creature does it exhibit the same life-long devotedness. The hippopotamus, the elephant, the camel, the buffalo, and such other quadrupeds as are tick-ridden, all come in for a share of the ox-biter's ministrations, and all gratefully submit to the necessary pain of probing.

This bird is found only in Central Africa; but there is in South Africa a near relative, known as the African ox-biter (*Buphaga africana*), which performs very much the same office in its territory.

Just here may be noticed another bird, whose only claim to an introduction among guardian birds is the fact that it has no right to be with them. This is the white-beaked honey-guide (*Indicator albirostris*). So far is this little fellow from being a guardian that he can only be described as a very Judas among birds. And as if to carry out the similitude to his great human prototype, his treachery is frequently of benefit to others, while disaster falls to his lot alone.

The white hunter, while eagerly pursuing the fresh spoor of one of the great pachyderms, in company with native hunters, will frequently find himself of a sudden deserted by his black attendants, and will discover, to his intense disgust, that it is owing to the importunate invitation of this little Judas.

The bird has discovered a nest of wild bees, and desires to feast upon the sweet spoils stored there. The easiest way to accomplish this is to call in the aid of man. Accordingly the little fellow seeks a native, and, by flying close beside him and excitedly twittering and chattering, attracts his attention. This done, he flies away a short distance, and then stops and looks back to see if he be followed. In this way he leads his accomplice until the nest is

reached, when he distinctly indicates it by hovering over it with his bill fixedly pointing at it.

He then takes up his position on a branch near by, and anxiously awaits the result of stupefying the bees and rifling the nest; for the natives always reward his villainy by giving him a small share of the plunder. Should the little fellow know of more than one nest, he will in turn lead to them all.

The retribution that occasionally overtakes the bird is due to the just rage of the bees, which seem to understand the part played by it, and have, curiously, learned to punish it, in spite of its apparent invulnerability to their weapons. They might vainly exhaust the battery of their stings on its feather-covered body, and have learned not to waste their ammunition in that way. The moment they see their betrayer hovering over their nest, they rush out upon it, and like the tiny Blefuscans, launch their poisoned arrows at its eyes.

Usually the bird escapes, but often it pays the penalty of its treachery, and falls helplessly to the ground to die within reach of the sweets for sake of which it played the traitor.

The honey-guide is a sober-looking bird, about six inches long. It wears a gray-brown mantle, with its short sleeves, or wings, edged with white, black throat-covering, brown shoes, and yellowish-white waistcoat. It is apparently entirely devoid of conscience, which will not be so much wondered at, perhaps, when it is known that it belongs to the cuckoos.

The lazy creature, entirely given over to vicious courses, does not trouble to build a nest, but having laid her egg upon the bare ground, carries it to the nest of some more thrifty bird, and after incontinently tossing out one of the eggs belonging there, deposits her own in its place. The European cuckoo, after thus making some other bird adopt its young, has at least the grace to permit the new mother to bring it up as nearly in her own way as the unruly nature of the young changeling will admit; but the honey-guide, as if afraid that its offspring might learn some good habits, steals it from its home as soon as possible after it is hatched, and inculcates, no doubt, its own evil ways.

Having given the cuckoo such a bad character, it is no more than right to turn at once to one member of the family that



RATTLESNAKE ENTRAPPED BY CALIFORNIA ROAD-RUNNER.

not only has none of the bad habits laid to the charge of the cuckoo generally, but is even entitled to a good place among the guardian birds.

To find this member of the family, it will be necessary to leave Africa for the west coast of North America. This bird is called scientifically the *Geococcyx californianus*, but is popularly known under several other names, such as road-runner, chaparral cock, and paisano. As is usually the case where modesty and great worth are combined, the paisano is but little known. Man is its protégé, and one of his most dangerous and deadly enemies—the rattlesnake—is the object doomed to destruction.

The paisano is an odd bird in many respects. The body is not more than ten inches long, while the straight tail measures fully thirteen inches. And a very uneasy member is this long tail, for it is almost constantly kept moving in a bobbing, jerky sort of fashion. The general color of the upper part of the body is olive green, the beak is long and sharply curved at the end, on the head is a crest which may be erected at will, the legs are long and powerful, and the four toes of the feet are disposed in pairs backward and forward.

It is able and willing to kill the rattlesnake in fair combat; but, according to Cassin, it has a much more poetical plan of causing the venomous creature's death when circumstances favor. Should it perchance find the snake asleep near a

growth of that small cactus which General Fremont found so formidable a barrier in Southern California, it will quietly but vigorously apply itself to building a wall of the spiny vegetable about the unconscious snake.

When the work is satisfactorily completed it will suddenly arouse the victim by a sharp stroke with its powerful beak. To coil for a spring is the reptile's first movement; to seek to retreat its next. It strives in vain to find a passage out. Teased by the bird, doubly angry at the barrier that opposes itself to his escape, the snake savagely strikes at the cactus.

A mouthful of spines is no more welcome even to a rattlesnake than to any other creature. He becomes furious. What shall he strike? Where deposit his overflowing venom? At the cactus again. More injury to himself! Rage—impotent rage. Again and again he madly strikes. Blinded at last by fury, he turns upon himself, and with choking hiss plunges his fangs with increasing madness into his own flesh. Repeatedly he hurls himself against the cactus—at last dies, his own torturing executioner. Is not that poetical justice?

For the unceasing and effective warfare which it wages against this foe to humanity, the paisano certainly deserves only kindness from man. And from man generally he receives it; but from the species sportsman he receives it not. And is not the reason for this sufficient? Paisano, though gifted with good wings, is

more abundantly supplied with legs. With these it can outstrip hound or hare. What better sport, then, for mounted hunters than by chasing it with fleet hounds to see how near they can come to overtaking it!

ders to which it seems to belong, is a strange creation. It has the long legs of the cranes, making it nearly four feet high, but the facial appearance of the vultures. In its habits it is a true bird of prey, for, according to Levaillant, it is

never happier than when a prairie fire, by driving all sorts of game out of covert, enables it to follow the advance line of the flames, and strike down and greedily devour the unfortunate fugitives.

Snakes of the venomous kind are, however, its favorite articles of food, and these it kills with an address equal to its courage. Whether or not it is proof against snake poison is not known; but it has never been known to die from the effects of an encounter, and it is therefore surmised that either it is so proof or that it is careful not to be bitten in a fleshy part.

It makes no hesitation about attacking the most poisonous snake, and invariably comes off victor. If the snake give battle, the secretary lowers one of its large wings so as to serve as a shield, and then hops about with great agility until it sees a favorable opportunity for tossing the reptile in the air. Every attempt made by the snake to bite is foiled by the skillfully interposed wing, upon whose feathered surface the poison seems to fall harmless. When the snake finally becomes exhausted, it is quickly killed by

an adroit bite through the nape of the neck. It is then swallowed whole, if small enough, or, if not, in as large pieces as possible.

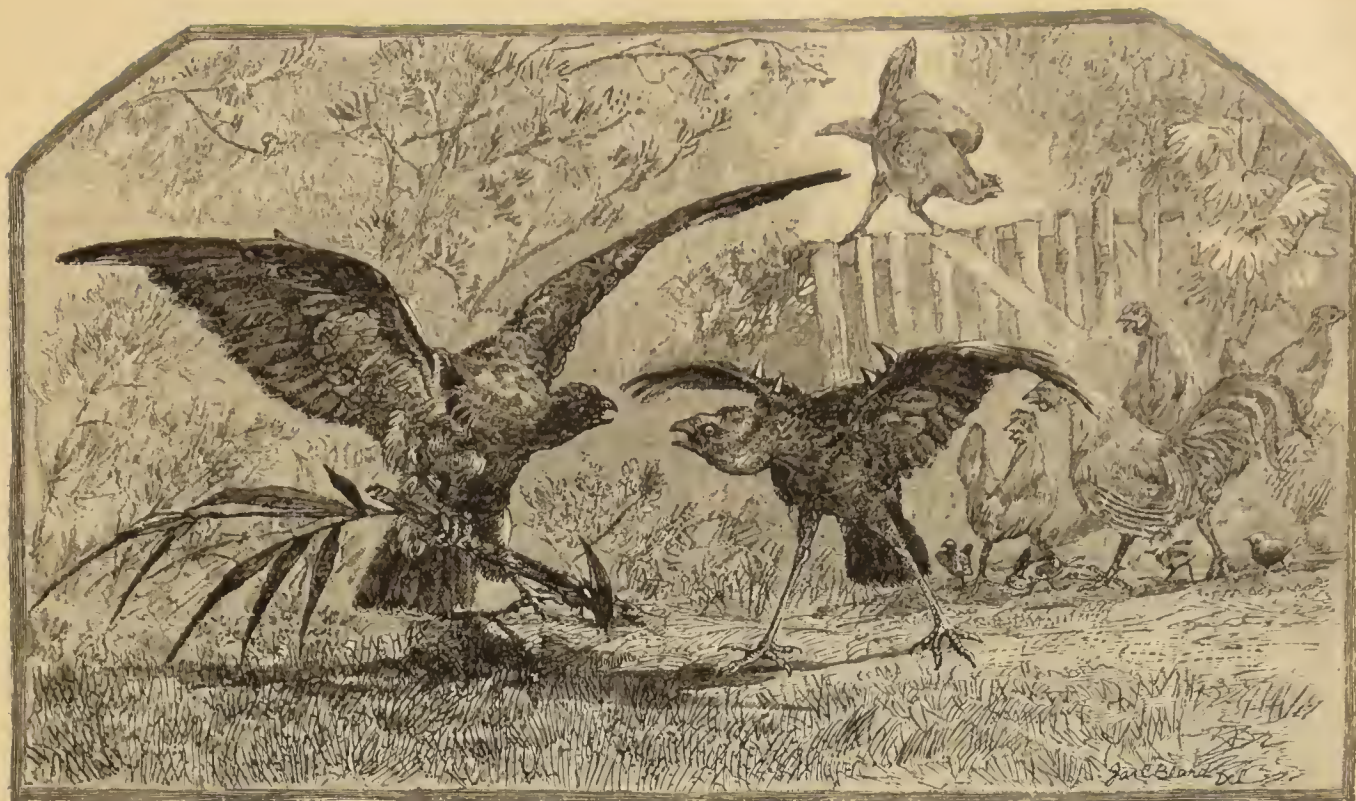
Although indigenous to Africa, the good offices of this bird have not been confined to that country. Nearly half a century ago it was introduced into the French West Indies for the express purpose of waging war upon the rattlesnake. The object was attained, for the bird thrived, and performed the duties of its office with great credit to itself, and to the satisfaction of its human protégés.



TWO-HORNED HORNBILL FEEDING ITS MATE.

Having thus placed one large good mark to the credit of the cuckoos, we will leave them and America at a bound, and return to Africa, where lives a guardian bird of vastly different size and style, but which lends itself to the service of man in much the same way as the paisano. This is the secretary-bird, so called from an odd tuft of feathers forming its crest and quaintly resembling quill-pens thrust behind the ear.

The secretary-bird (*Serpentarius secretarius*), or crane-vulture, as it is also called, in the effort to describe the two or-



SPUR-WINGED CHAUNA DEFENDING CHICKENS.

Although a very dignified bird, the secretary is willing, if well treated, to lend itself to the service of man in a more menial capacity than that of snake-killer. It readily becomes domesticated, and looks after the poultry-yard with great care, governing mildly but firmly, and driving away or swallowing all intruders. The predatory rat or harmless garden snake enters the poultry-yard only to find a grave. Nor may the fowls indulge in unseemly altercation. The first intimation of a quarrel brings the secretary upon the scene, and the brawlers are at once separated.

It should be remarked that the secretary-bird is no trifle. He feels that the laborer is worthy of his hire. His hire is the gratification of a large appetite. Pay him or he pays himself. He will abstain from chickens in your interest, but will not hesitate to take them in his own.

It might be well now to turn from the snake-eaters were it not that there still remains a bird of this kind in which the guardianship idea is so dominant that he carries its operation to an unwarrantable limit. This is the hornbill, a native of northern Africa and southern Asia. All of the species do not practice snake-killing, but a few of them do, and even go so far as to seek out the female snake as she lies coiled about her eggs, and first kill her, devour her eggs.

We say, "charity begins at home." The hornbill, with a stronger emphasis, says, "guardianship begins at home." He provides a hole in a tree, and then practically says to his wife, "Go in there; make your nest as best you can; lay your eggs; keep them warm; hatch your little ones; I will feed you." The good wife obeys, and the husband at once gathers mud and plasters up the hole, leaving only an aperture large enough to admit the imprisoned lady's beak.

The hornbill is worthy of a description if ever a bird were, and while the mud is being laid about the nest there will be time to describe the grotesque creature. The body is rather slender, the neck moderately long, the head short, the legs short, and the wings short. In most of the species the coloring is mixed sombre and gray, making a striking contrast. They vary in size, sometimes, as in the case of the rhinoceros hornbill, being as many as four and a half feet long, and upward of two feet in spread of the comparatively short wings. The voice, like that of the jackass, is, when first heard, or suddenly heard at any time, startling and awesome. In sound it is not unlike that of the patient quadruped, combined with the noise of escaping steam from a locomotive.

The beak, usually of a deep red color, is an extraordinary feature of this generally odd bird. In some species it is a foot

long, with a superstructure of more than half that length. It has the appearance of great weight and strength. The latter quality it possesses, but the former it fortunately lacks. Its lightness is due to the honeycomb construction of the interior.

Returning now to Mrs. Hornbill, it will be found that she is apparently contented with her lot. The agreement seems to be that in consideration of submitting to seclusion and assiduously minding her own business, her husband shall feed her the choicest morsels whenever she thrusts her phenomenal beak out of the aperture left for that purpose. Her beak is out all the time. That tells the whole pitiful story.

The result only serves to once more point the familiar moral—never set your wits against a woman's, and let her make the last condition of a bargain.

His word is given. The faithful if jealous husband never attempts to evade his contract. Vainly he labors to fill the reservoir to which the gaping beak leads. Nor rest by day nor sleep by night, save in furtive winks, does he know. The consequence may be foreseen. He grows weak and wan, his head droops, his enfeebled wings can scarce carry even his emaciated body. A cold rain comes, and morning dawns to see him stretched lifeless on the ground, deaf even to the awful voice of his irate widow.

Perchance retribution follows, not in the guise of a second husband, but in the person of man. Idleness and generous living have transformed the recluse into a mass of juicy fat and tender, even aromatic, flesh; for she has fed largely on spicy fruits. Ruthless man, led by the marvellous discord of her voice, or attracted by the sight of her head, breaks away the barrier of mind, squeezes the widow's neck, and, lo! the end of the domestic drama—a veritable tragedy.

Closed up in her cell, the mother bird can find no other material for her nest than her own feathers. She is a tender mother, if not a considerate wife, and therefore makes no hesitation about plucking herself. Man may honor and admire her for this beautiful trait, but it is needless to say the contemplation of its results causes him no pangs.

By way of contrast to this tale of domestic woe, let us wander again to the New World, where we shall find another horned bird, with a voice hardly less dis-

agreeable than that of the hornbill, but which has, combined with shy and retiring manners, a tender heart and benevolent spirit. This is the chauna (*Chauna chavaria*) of South and Central America.

The harsh, discordant voice of this bird has earned for it the name of screamer; but we all know that the voice of a benefactor, as long at least as we need his aid, is always sweet. The chauna is about the size of a common goose, but has longer legs, and consequently a more graceful carriage and more active movements. Its prevailing color is brown mixed with gray.

Modest and peace-loving as is the chauna, it is nevertheless full of spirit, and will gladly defend the weak from the tyranny of the strong. It is fortunately enabled to accomplish this by means of an armament of horns or spurs, placed one on top of its head and two on each wing. With these it defends its young from the attacks of all enemies, whether birds or reptiles.

Domesticated, the chauna becomes the champion of the poultry-yard, and successfully pits itself against the numerous winged robbers that infest the parts of the world which it inhabits. Its action in this matter, unlike that of the other guardian birds as yet mentioned, can not be ascribed to selfish motives, for its food consists entirely of seeds, grapes, and the leaves of aquatic plants, and not in any case of the enemies of the defenseless creatures which it delights in protecting.

It was said, in speaking of the honeyguide, that its evil ways would not be wondered at when it was known that it belonged to the cuckoos. It is gratifying now to bear witness to the good character of another family of birds in saying that the kindly spirit of the chauna will seem quite in keeping when it is known that it belongs to the same order as the cranes and storks.

A cynical Frenchman has said that friendship is only another form of selfishness. Untrue, of course. But not the less real is the foundation on which the saying was built. Pure disinterestedness is very seldom seen. "The motive?" demands the old lawyer in *David Copperfield*. Guardianship in birds! The motive? Alas! the answer must usually be, ticks, bats, flies, snakes—a good meal, in short.

But pure disinterestedness is sometimes seen. Yes, and if the crane do not plainly exhibit it, we shall vainly search for it.

The crane does, indeed, perform one of the purest and most beautiful acts of benevolence recorded in natural history. To Dr. Van Lennep is due the honor of the discovery of this trait in the crane.

There are a great many small birds, such as the ortolans, darnagas, tree-figs, wrens, titmice, smaller thrushes, finches, and others, which are obliged to leave Europe for

their cheery twittering and merry songs. On the return voyage the cranes do not trouble themselves to fly low, but, as if knowing that going down is easy work even for a small bird, they fly high, and let their little passengers drop off at their own convenience.

It may be that future investigation will prove that the conduct of the crane is the



THE CARRIER.

a warmer climate as soon as cold weather sets in. They are incapable of a long-sustained flight, and in the attempt to cross the Mediterranean would surely perish in its waters. Even the trip through Asia Minor, Syria, and Palestine would be too much for their feeble powers, and to stay in those countries would mean death, for, except in a few spots, the winter is too rigorous for them. How, then, do they contrive to find their way to Africa?

Most of the cranes are migratory too, and usually are to be seen making their way south at the first approach of autumn coolness. They fly low, uttering an odd cry as of alarm. At once the would-be little travellers below mount upward, and, incredible as it may seem, take up their quarters on the backs of their long-legged, big-hearted friends. There they comfortably sit, and repay their benefactors by

result of some less noble impulse than that of doing good for good's sake; but in the absence of the necessary proof to that effect it will do no harm to accept it as it appears to be. It is true, however, that nature will sometimes cause her creatures to do that instinctively which, by resulting in specific benefit, may seem to have been done for the most apparent object thereby achieved.

A case in point is a very curious demonstration of this fact. The sea-gull, as may be understood from its name, is a dweller by the sea. It often ventures far out on the water, some species, as the albatross, seeming to almost live in mid-ocean; but it is very seldom seen far inland. An exception to this rule, however, seems to be made in favor of the Great Salt Lake of Utah.

The number of these birds frequenting

the region of the great inland sea varies very much, sometimes being counted in hundreds, and sometimes in thousands. According to an account in the *Salt Lake Herald*, the pioneer farmer was first made acquainted with the gull in a way that left in his heart such a strong feeling of gratitude that he at once took steps to have the bird protected by law. The law was not needed, however, for the visits of the bird, after the event about to be narrated, showed it to be so useful that the farmers, in the absence of a specific law, would no doubt have fixed and administered adequate punishment in the case of any person injuring a gull.

Utah, upon the arrival there of the first band of Mormons, was not a particularly inviting spot, and it required much hard work to bring the soil into a good condition for bearing. The first year (1847) was a very discouraging one, but the year following gave such promise as compensated the struggling pioneer for the trials and hard work of the preceding year. The grain arrived safely at that stage when the harvest seems beyond the need of a care.

Suddenly the farmer was roused from his dream of contentment, and brought face to face with impending ruin. Down the mountain-sides poured a broad torrent of huge black crickets. Resistless as burning lava, and no less destructive, they spread themselves over the fast-ripening fields of corn, and slowly but surely laid them waste. Vainly the farmers strove to check the black flood. Their efforts were unavailing.

Despairing at last, they had given up the hopeless struggle, when a straggling line of birds appeared in the sky, and then settled down upon the devouring hordes. This was only the van-guard. By hundreds and by thousands the strange birds came, and, as if it were their only object in coming, made systematic war upon the crickets. Ordinary methods would have proved inadequate to the conquest; but for some reason the gulls resorted to extraordinary methods.

To have eaten and digested the millions of invaders would have required the labors of many times the number of gulls present. The birds, therefore, with singular rapidity, alternately devoured and disgorged their prey until all had been disabled. When this happy result had been attained, and the crops, in consequence,

were saved, the gulls all took flight again, and returned, no doubt, to their sea-side homes.

Every year there are some of these birds make their appearance in that region, and as they seem to understand that they are safe from harm, are quite tame, and closely follow the farmer as he ploughs up the soil, swallowing greedily the insects, beetles, and worms turned up by the plough.

This seems to be the only case of real guardianship in the gull family, though superstition is busy among the ignorant sailors ascribing various attributes to different members of the family, which if true would entitle some of them to rank among guardian birds, while others would have to take a place with the workers of evil. The character given a bird by the superstitious fancies of ignorance is not sufficient title, however, to a place with the real guardians.

The raven family is well represented among the guardian birds by the ox-biters; but they are not the only members of the family worthy to be mentioned, though it would hardly be possible to give every member due credit, for probably no other family furnishes so many instances of this peculiarity. On the other hand, the same family counts some of the most destructive and mischievous of birds among its members.

The crow, the best known of this family, though a noisy fellow, yet has many good traits which should make him liked, but unfortunately he also has some bad traits, and for these, though comparatively trifling, he is generally execrated. He destroys vast numbers of insects, grubs, caterpillars, and other pests to the farmer; and combined with two or three of his fellows makes life miserable to the chicken-hawks. But he will also help himself to corn, and will occasionally himself make a raid on the poultry-yard.

The magpies, though usually pests to man, are frequently of great service to other animals. In England and Scotland they do a great kindness to the sheep by ridding them of many parasites which would otherwise cause the poor creatures, with their long wool, great discomfort. In Asia, particularly in India and China, it performs the same kind office for the unwieldy water-buffalo. Among the starlings, which, like the magpies, belong with the ravens, there are many species that perform guardian duty.

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